

Translation of Taiwan Patent Application No. 91220204

Title**MOUNTING BRACKET FOR DISK DRIVE****Abstract of the Invention**

A mounting bracket for accommodating a data storage device includes a bottom wall, a first sidewall extending upwardly from one side of the bottom wall. Two locating pins protrude from the first sidewall. Two fixing holes are defined in a sidewall of the data storage device corresponding to the locating pins. In assembly, the data storage device is installed into the mounting bracket from a top. The locating pins of the mounting bracket are inserted into the fixing holes. An opposite sidewall of the data storage device then engages with an opposite sidewall of the mounting bracket. The data storage device is thus mounted into the mounting bracket.

Description of the Invention**【Field of the Invention】**

The present invention relates to mounting brackets of disk drives, and particularly to a mounting bracket of a disk drive convenient to assemble and having a low cost.

【Background of the Invention】

Usually, in a typical personal computer, there are data storage devices such as hard disk drives, CD-ROM drives and floppy disk drives mounted therein. Screws are very often used in conventional mounting means to fixing the data storage device to the personal computer directly. However,

a lot of screws and a screwdriver are needed, so that the screw mounting means is cumbersome and inefficient in assembly of the data storage devices.

With the development of the computer technology, some new mounting means are provided to conveniently fix the data storage devices. For example, a pair of rails is screwed to opposite sidewalls of a data storage device. The data storage device then slides into a pair of guiding slots defined in a mounting bracket. The relative art can be seen in Taiwan Application Numbers 822022204 and 83202973. In the mounting means as described above, the data storage device is convenient to mounted into the mounting bracket with the rails matching the guiding slots. However, screws and screwdriver are also needed in installing the rails to the data storage device. Furthermore, the manufacturing cost of the mounting means increases for use of the rails.

Thus, it is necessary to improve the mounting means of the data storage devices to eliminate the shortcomings described above.

【Objects of the Invention】

An object of the present invention is to provide a mounting bracket of a disk drive convenient to assemble the data storage device and having a low manufacturing cost.

【Features of the Invention】

A mounting bracket of the invention is used to accommodate a data storage device with a plurality of fixing holes defined in a sidewall. The mounting bracket includes a bottom wall, a first sidewall bent

perpendicularly and upwardly from one side of the bottom wall. A plurality of locating pins protrudes from the first sidewall corresponding to the fixing holes of the data storage device. Fixing structures are formed on an opposite side of the bottom wall of the mounting bracket. In assembly, the data storage device is installed into the mounting bracket from a top. The locating pins of the mounting bracket are inserted into the fixing holes. An opposite sidewall of the data storage device then engages with the fixing structures of the mounting bracket. The data storage device is thus mounted into the mounting bracket.

Advantages of the invention: Two locating pins protrude inward from one sidewall of the mounting bracket. Two fixing holes are defined in one sidewall of the data storage device corresponding to the locating pins. Only the locating pins of the mounting bracket insert into the fixing holes of the data storage device, and the other sidewall of the data storage device engages with the other sidewall of the mounting bracket. The data storage device is thus mounted into the mounting bracket.

【Description of the Drawings】

FIG. 1 is an exploded, isometric view of a mounting bracket and a disk drive in accordance with a preferred embodiment of the present invention;

FIG. 2 is another isometric view of the mounting bracket of FIG. 1, but viewed from another aspect;

FIG. 3 is an assembled view of Fig. 1;

FIG. 4 is an isometric view of a mounting bracket in accordance with an alternative embodiment of the present invention;

FIG. 5 is an isometric view of the mounting bracket of FIG. 4, but viewed from another aspect; and

FIG. 6 is an isometric view of a mounting bracket in accordance with a further alternative embodiment of the present invention.

【Labels of the Main Components】

mounting bracket	10, 10', 10"	bottom wall	12, 12', 12"
first sidewall	14, 14', 14"	locating pin	16, 16', 16"
first vertical wall	18, 18'	horizontal connecting wall	20, 20'
second vertical wall	22, 22'	protrusion	24
disk drive	30	first wall	36
second wall	38	second sidewall	18"
groove	19"	fixing tab	20"
through hole	24', 22"		

【Embodiments of the Invention】

Referring to FIGS. 1 and 2, a mounting bracket 10 of the present invention is used to secure a disk drive 30 therein, and includes a bottom wall 12. A first sidewall 14 bends perpendicularly and upwardly from a side of the bottom wall 12. Two locating pins 16 protrude from the first sidewall 14. A second sidewall (not labeled) bends perpendicularly and upwardly, then horizontally and outwardly, and further perpendicularly and upwardly from an opposite side of the bottom wall 12. The second sidewall includes a first vertical wall 18, a horizontal connecting wall 20 and a second vertical wall 22. Two generally triangular protrusions 24 protrude from the second vertical wall 22.

A first sidewall (not shown) of the disk drive 30 defines two fixing holes (not shown) corresponding to the locating pins 16 of the mounting bracket 10. A second sidewall (not labeled) of the disk drive 30 includes a first wall 36, and a second wall 38 discontinuous to the first wall 36.

Referring also to FIG. 3, in assembly, the disk drive 30 is firstly placed in a top of the mounting bracket 10. The locating pins 16 of the mounting bracket 10 are then inserted into the fixing holes of the first sidewall of the disk drive 30. Lastly, a top of the second sidewall is pressed to install the disk drive 30 into the mounting bracket 10. The first wall 36 abuts against the first vertical wall 18. The second wall 38 is engaged under the protrusions 24 of the second vertical wall 22. Thus, the disk drive 30 is mounted into the mounting bracket 10.

FIGS. 4 and 5 illustrate a mounting bracket 10' in accordance with an alternative embodiment of the present invention. In the embodiment, two fixing holes (not shown) are defined in the first wall 36 of the disk drive 30. The mounting bracket 10' includes a bottom wall 12'. A first sidewall 14' extends perpendicularly and upwardly from a side of the bottom wall 12'. Two locating pins 16' protrude from the first sidewall 14'. A second sidewall (not labeled) extends perpendicularly and upwardly from an opposite side of the bottom wall 12'. The second sidewall includes a first vertical wall 18', a horizontal connecting wall 20', and a second vertical wall 22'. Two through holes 24' are defined in the first vertical wall 18'.

In accordance with steps as described above for installing the disk drive 30 into the mounting bracket 10', the first wall 36 of the disk drive 30 abuts against the first vertical wall 18' of the mounting bracket 10'. The

second wall 38 also abuts against the second sidewall 22' of the mounting bracket 10'. At the same time, the fixing holes of the first wall 36 of the disk drive 30 are aligned with the corresponding through holes 24' of the first vertical wall 22' of the mounting bracket 10' respectively. Screws (not shown) extend through the through holes 24' and are screwed into the fixing holes of the disk drive 30, thereby securing the disk drive 30 in the mounting bracket 10'.

FIG. 6 illustrates a mounting bracket 10" in accordance with the further alternative embodiment of the present invention. In the embodiment, two fixing holes (not shown) are defined in the first wall 36 of the disk drive 30. The mounting bracket 10" includes a bottom wall 12". A first sidewall 14" extends perpendicularly and upwardly from a side of the bottom wall 12". Two locating pins 16" protrude from the first sidewall 14". A second sidewall 18" extends perpendicularly and upwardly from an opposite side of the bottom wall 12". Two fixing tabs 20" with through holes 22" extend upwardly from the bottom wall 12" adjacent to the second sidewall 18", corresponding to the fixing holes of the first wall 36 of the disk drive 30. A pair of L-shaped grooves 19" is defined in the bottom wall 12" extending to the second sidewall 18".

In accordance with steps as described above for installing the disk drive 30 into the mounting bracket 10", the first wall 36 of the disk drive 30 abuts the fixing tabs 20" of the mounting bracket 10", and the fixing holes of the first wall 36 of the disk drive 30 align with the corresponding through holes 22" of the fixing tabs 20" respectively. The second wall 38 of the disk drive 30 also abuts against the second sidewall 18" of the mounting bracket 10". Screws (not shown) are extended through the

through holes 22" and screwed into the corresponding fixing holes of the disk drive 30, thereby securing the disk drive 30 in the mounting bracket 10".

It is to be understood, however, that even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.